

REMARKS

This application has been carefully reviewed in light of the Office Action dated September 25, 2002. Claims 1 to 10 remain pending in the application, with Claims 1, 2 and 7, the independent claims herein, having been amended. Reconsideration and further examination are respectfully requested.

It is noted that this Amendment has been prepared in accordance with the revised format set forth in the Pre-Official Gazette notice entitled "Amendments in a Revised Format Now Permitted" signed January 31, 2003, posted on the USPTO web site.

Claims 1 to 10 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 4,860,026 (Matsumoto) in view of U.S. Patent No. 5,142,374 (Tajika). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention of amended independent Claims 1, 2 and 7 concerns quantization processing of image data for recording apparatus' having first and second recording means that print with, for example, light (density) and dark ink respectively. According to the invention, different quantization processes are utilized for each of first and second record means that record with low density and high density material, respectively; one process for the low density that conducts error correction (such as an error diffusion quantization process) and another process for the high density that does not conduct error diffusion (such as a dither matrix quantization process). (See page 34, line 16 to page 35, line 11 of the subject specification.) As a result, a high quality photographic image can be processed to preserve the original image densities (due to error correction process), while at the same time easily controlling the number of dots assigned to each pixel so as to decrease granularity in the output image.

Referring specifically to the claims, amended independent Claim 1 is a quantization method in which quantization processing is applied to data for first and second recording means which record input image data in a plurality of gradations which belong to each of different gradations in substantially the same hue, comprising the steps of inputting multi-value level image data, a first quantization step of performing quantization of the image data input for the first recording means to data with a lower level than that of the input image data, the first quantization step performing the quantization by conducting error correction, and a second quantization step of performing quantization of the image data input for the second recording means to data with a lower level than that of the input image data, the second quantization step performing the quantization without conducting error correction, wherein at least one of the first and second quantization steps performs quantization of the input image data to multi-value data with 3 or more levels, so that the corresponding one of the first and second recording means may record the image in a plurality of gradations, wherein the first recording means records the image with lower density recording material than that used by the second recording means.

Amended independent Claims 2 and 7 are apparatus and storage-medium claims, respectively, that substantially correspond to Claim 1.

The applied art is not seen to disclose or to suggest the features of amended independent Claims 1, 2 and 7. More particularly, the applied art is not seen to disclose or to suggest at least the feature performing a first quantization process for a first recording means that records an image with low density material by conducting error correction, and performing a second quantization process for a second recording means that records with a higher density material without conducting error correction.


The Office Action admits that Matsumoto fails to disclose "first and second quantization steps performing quantization by conducting error correction and without conducting error correction, respectively," but cites Tajika as allegedly making up for Matsumoto's deficiencies.

Tajika is seen to disclose conducting error correction for printing with high density (element 44 of Fig. 4), and conducting another quantization process without conducting error correction for printing in low density (element 43 of Fig. 4). Thus, Tajika is opposite that of the present invention which quantizes by conducting error correction for low density and quantizes without conducting error correction for high density. Accordingly, Tajika is not seen to disclose or to suggest the features of the present invention of Claims 1, 2 and 7.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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